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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHAH, SAMIR M	

ART UNIT	PAPER NUMBER
2856	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/710,574	TOUZOV, IGOR	
	Examiner	Art Unit	
	SAMIR M. SHAH	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

2. A listing of registered patent attorneys and agents is available on the USPTO Internet web site http://www.uspto.gov in the Site Index under "Attorney and Agent Roster." Applicants may also obtain a list of registered patent attorneys and agents located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450

Response to Arguments

3. The Applicant has not provided any arguments/remarks in response to the 35 U.S.C. §112 rejection of claims 4, 6 and 11, as stated in the Office Action mailed on 07/26/2007. Therefore the above-mentioned rejection is maintained and hereby made FINAL.

4. Applicant's arguments, see page 1 of "response to non-final rejection", filed 08/25/2007, with respect to the 35 U.S.C §102(b) rejection of claims 1-6, 9 and 11 as being anticipated by Tanielian et al. (US Patent 6,134,485 henceforth "Tanielian"), have been fully considered but they are not persuasive.

As to Applicant's argument, "Tanielian et al do not disclose a method for structural integrity monitoring, instead they provide disclosure for a system and a method of collecting a diverse set of data", the Examiner disagrees.

Tanielian discloses "a system and method for measuring and analyzing physical parameters about a surface of an object using an integrated multisensor system" (column 1, lines 5-10) (emphasis added). Tanielian further discloses "prior art has generally recognized the need for measuring and analyzing physical parameters...at discreet locations about the surface of an object...example includes measurement of stress and strain…at discreet locations about a load-bearing structure" (column 1, lines 11-20) (emphasis added). The measurement and analysis of stress and strain at specific locations of a load-bearing structure clearly implies a structural integrity monitoring of that structure. Also, in column 9, lines 5-28, Tanielian teaches using the invention in testing systems for structural integrity monitoring of parts of other modes of transportation such as the rotors of a helicopter, hull of a boat/submarine or body of an automobile, wherein one of the physical parameters being measured and analyzed could be "mechanical strain".

Thus, contrary to Applicant's assertion, Tanielian discloses a method for structural integrity monitoring and therefore, anticipates claims 1-6, 9 and 11. Therefore, the above-mentioned rejection is maintained and hereby made FINAL.

5. Applicant's arguments, see pages 1-2 of "response to non-final rejection", filed 08/25/2007, with respect to the 35 U.S.C §103(a) rejection of claim 7 as being unpatentable over Tanielian in view of Breed (US Patent Application Publication 2003/0009270 A1 henceforth "Breed"), have been fully considered but they are not persuasive.

Breed is only relied upon for the teaching of forecasting recommended time of replacement of an object. Since, it is well known in the prior art to forecast recommended time of an object replacement in order to avoid object breakdowns, provide warnings of danger or predict malfunctions, it would be obvious to one of ordinary skill in the art at the time of the invention to use such a forecasting method, taught by Breed, along with Tanielian's method of nondestructive structural integrity monitoring. Applicant's arguments directed towards "pattern monitoring" or "pattern recognition algorithms" are irrelevant to the disclosure relied upon in the above-mentioned rejection and are therefore, rendered moot. Moreover, Applicant's arguments directed towards the instant invention being "vitally different" compared to differentiating "normal and abnormal behavior patterns", contradict with the limitations in claim 5 that recite employing data "to report unusual usage events or usage patterns".

Therefore, the above-mentioned rejection is maintained and hereby made FINAL.

6. The Applicant has not provided any arguments/remarks in response to the 35 U.S.C. §103(a) rejection of claim 10, as stated in the Office Action mailed on 07/26/2007. Therefore the above-mentioned rejection is maintained and hereby made FINAL.

7. In response to applicant's argument, see page 2 of "response to non-final rejection", filed 08/25/2007, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "stateful evolution of characteristics…(paragraph 21)"; "not patterns themselves but rather progression of the change (Figure 1, paragraphs 21, 22, 35) is the factor that shall be used to predict the failures") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 4, 6 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 4 recites the limitation "object of claim 3" in 1st line. There is insufficient antecedent basis for this limitation in the claim.

(b) Claim 4 recites the limitation "the apparatuses" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

(c) As to claim 6, the phrase "and/or" renders the claim(s) indefinite because the claim(s) may (in the case of “and”) or may not (in the case of “or”) include the limitations immediately before and after the phrase “and/or”, thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

(d) Claim 11 depending from indefinite claim 4 in indefinite for the same reason. Moreover, it is not clear as to what “apparatus” of claim 4 is being referred to in claim 11.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-6, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanielian et al. (US Patent 6,134,485 henceforth “Tanielian”).

(a) As to claim 1, Tanielian discloses a method of nondestructive structural integrity monitoring of a subject/[surfaces on the body, wings, nacelle, tail and engine of] an

aircraft (12), said method only uses information obtained through at least one mounted sensor/piezoelectric sensors/strain gages/piezoresistive sensors (42, 44) that measures physical properties/parameters (such as airframe, stress and strain) of said subject/an aircraft (12), wherein information from said at least one sensor (42, 44) is analyzed by computing means/digital signal processor (66)/controller (38) to determine presence of priorly defined characteristics specific to the subject/an aircraft (12), wherein said priorly defined characteristics are either computed by said computing means/digital signal processor (66)/controller (38) at some early time frame or preset or both, and said method does not use any actuators that might send energetic signals to probe said subject/an aircraft (12), and results of said method do not rely on successful acquisition of acoustic emission (figures 1-4, 8; column 1, lines 3 - column 2, lines 10; column 2, lines 34-35, 48-67; column 3, lines 48-55; column 5, lines 3-10, 28-43; column 6, lines 10-50; column 8, lines 19-50; column 9, lines 3-5, 12-18).

(b) As to claim 2, Tanielian discloses a digital processing apparatus (66) implementing the method of claim 1 and at least one passive/piezoresistive sensor (42, 44) providing measurements to said processing apparatus (66) (figures 1-4, 8; column 5, lines 3-11; column 6, lines 10-33).

(c) As to claim 3, Tanielian discloses an airplane (12) that has the apparatus (66) of claim 2 built-in (figures 1-4, 8; column 4, lines 15-37; column 6, lines 22-33).

(d) As to claim 4, Tanielian discloses a plurality of apparatuses (66) being connected by a network capable application processor (NCAP) (column 2, lines 28-36).

(e) As to claim 5, Tanielian discloses sensing physical parameters such as "mechanical strain" which would implicitly provide data that can be employed to report unusual usage events or usage patterns (column 3, lines 7-18).

(f) As to claim 6, Tanielian discloses an implementation of the method of claim 1 that utilizes signal networks/wireless interface to transmit information to a remote location/ground (column 3, lines 43-55).

(g) As to claim 9, Tanielian discloses a single physical node being used to process data from multiple independent subjects (column 4, lines 15-29).

(h) As to claim 11, Tanielian discloses using a network/NCAP to electrically connect the various components within the apparatus and thus, use it as an energy source (column 2, lines 47-57; column 3, lines 19-42).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanielian as applied to claim 1 above, and further in view of Breed (US Patent Application Publication 2003/0009270 A1 henceforth "Breed").

(a) As to claim 7, Tanielian does not expressly disclose forecasting recommended time of own replacement for an object that utilizes the method of claim 1.

Breed discloses predicting the failure of a particular component of an automobile or an airplane, or forecasting recommended time for the replacement of a part (such as tire) of an object (such as an automobile) (figures 3, 5; paragraphs 0072, 0106-0109, 0298, 0454, 0571).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tanielian method to include utilizing it for an object to forecast recommended time of own replacement because this would help to "prevent vehicle breakdowns", to "alert the driver of the vehicle that a component of the vehicle is

functioning differently than normal and might be in danger of failing" and achieve other benefits as taught by Breed.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanielian, as applied to claim 1 above.

(a) As to claim 10, the Examiner takes Official Notice that digital processors that use an independent/autonomous energy source are well known in the art to provide processing functionality without the need for an external power source. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a digital processor with an autonomous energy source because this would improve the mobility of the processor and eliminate the need for providing an external power source for the processor.

Furthermore, the common knowledge stated above is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice. See *MPEP § 2144.03 C.*

Conclusion

16. This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal to the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

17. If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed. The Notice of Appeal must be accompanied by the required appeal fee of $255.

18. If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

19. A reply under 37 CFR 1.113 to a final rejection must include the appeal from, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMIR M. SHAH whose telephone number is (571)272-2671. The examiner can normally be reached on Monday-Friday 10:00 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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